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10/670,965	09/25/2003	Luder Heidemann	2001P17672WOUS	7034

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EXAMINER

SILVER, DAVID

ART UNIT PAPER NUMBER

2128

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/670,965	<b>Applicant(s)</b> HEIDEMANN ET AL.	
	<b>Examiner</b> David Silver	<b>Art Unit</b> 2128	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6,9-14 and 16-18 is/are pending in the application.  
     4a) Of the above claim(s) 7,8 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,9-14 and 16-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. n/a.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/25/03</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-6, 9-14, 16-18 are pending in Instant Application.

#### ***Priority***

2. Examiner acknowledges Applicant's claim to priority benefits of:

10115694.4 filed 03/29/2001 GERMANY, PCT/DE02/01014 filed 03/20/2002 GERMANY, 10147740.6 filed 09/27/2001 GERMANY.

3. The Instant Application claims priority from multiple documents. It is unclear if any single document fully supports the disclosure of the Instant Specification.

#### ***Information Disclosure Statement***

4. The information disclosure statement(s) (IDS) submitted on 9/25/03 is/are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement(s) is/are being considered by the examiner if signed and initialed. Only portions written in English language were considered.

The PCT Search Report of the PCT/DE02/01014 (claimed as priority document) is required.

#### ***Claim Interpretation***

5. Paragraph 17, which recites, in part: "The relevant process steps are filling, heating, and mixing. Each of these individual process steps or basic operations has its own internal sequence of instruction steps which is implemented in the sequence logic." In view of this, "basic operations" shall be interpreted as "filling, heating, and mixing".
6. In view of 35 USC 112 1<sup>st</sup> paragraph rejection for failure to adequately disclose and enable the deficiencies listed in section titled "Claim Rejections – 35 USC 112", the term following terms will be given their ordinary meaning in the art:

Link: S: (n) link, nexus (the means of connection between things linked in series) (Source: <http://wordnet.princeton.edu/perl/webwn?s=link>).

"data packets" shall be interpreted as data or information.

#### ***Claim Objections***

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7. Claim 2-6, 10-14, 16-18 are objected to because of the following informalities:

The claims should follow USPTO guidelines for claim drafting. Specifically, dependent claims should start with the word "The". For example, claim 2 should recite "The method according to claim 1...".

Claim 16, limitation "executing a simulation process parallel to the real process, wherein the simulation process is simulating at least a part of the real process". It appears the word "is" should be inserted as highlighted above.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 1-6 and 17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claims 1-6 and 17, the method claims do not produce a useful, tangible, and concrete **result**. The steps of the method claims do not produce a useful, tangible, and concrete result. They merely recite a software algorithm, *per se*, which, for example, does not display, store, or otherwise provide a useful tangible output. Note exemplary claim 1 which only recites software steps (linking) and does not produce a useful tangible and concrete result.

Claims 9-14 and 18 are interpreted to have hardware elements, the storage facility and read-in device.

Therefore are directed toward statutory subject matter.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-6, 9-14, 16-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with

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the **enablement requirement**. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As per claims 1, 9 and 16, the instant claims are not enabled for "linking" and further not enabled for "automatically linking". What is linking? What consists of "linking"? What is the result of "linking"? How is "automatically linking" performed?

As per claims 3-4, 11 and 12, the instant claims are not enabled for a "data packet", and further not enabled for "pre-defined data packet". What is a data packet? How is it used? How is it defined? What does it consist of? The Examiner is well aware of the term data packet in the context of communication, however in the context of the claimed invention the meaning is unknown.

As per claim 6 and 14, the claims are not enabled for "semantic programs", "semantic periphery assignments", and "process control engineering documents". How are they "assembled" into a simulation program? Furthermore, the claims are not enabled for the assembly of the terms.

As per claims 1, 9, and 16, the claims do not enable making "available" the claimed features. Available to who / what? How are they made available? Etc. See exemplary claim 17, which recites "the process parameters are made available by making pre-defined data packets available".

10. Claims 1-6, 9-14, 16-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the **written description requirement**. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As per claims 1, 9 and 16, the Specification does not disclose "linking" and further not disclose for "automatically linking" in such a way to reasonable convey to one of skill in the art that the inventors had possession of the invention at the time of the claimed invention. What is linking? What consists of "linking"? What is the result of "linking"? How is "automatically linking" performed?

As per claims 3-4, 11 and 12, the Specification does not disclose "data packets" in such a way to

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reasonable convey to one of skill in the art that the inventors had possession of the invention at the time of the claimed invention. The following items are lack written description: "data packet", "pre-defined data packet". What is a data packet? How is it used? How is it defined? What does it consist of? The Examiner is well aware of the term data packet in the context of communication, however in the context of the claimed invention the meaning is unknown.

As per claim 6 and 14, the Specification does not disclose "semantic programs", "semantic periphery assignments", and "process control engineering documents" in such a way to reasonable convey to one of skill in the art that the inventors had possession of the invention at the time of the claimed invention. How are the listed terms defined? What do they consist of? How are they assembled into a simulation program?

As per claims 1, 9, and 16, the Specification does not disclose the making available of claimed features in such a way to reasonably convey to one of skill in the art that the inventors had possession of the invention at the time it was filed. See exemplary claim 17, which recites "the process parameters are made available by making pre-defined data packets available".

As per claims 1-6, 9-14, 16-18, the Instant Application claims priority to multiple different documents, it is unclear if all single claim are supported by any one priority document. This issue can be traversed where specifically all claim limitations are disclosed in a single priority document.

11. The above cited rejections are merely exemplary.

12. The Applicant(s) are respectfully requested to correct all similar errors.

13. Claims not specifically mentioned are rejected by virtue of their dependency.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application

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filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1-6, 9-14, and 16-18 are rejected under 35 U.S.C. 102(b) / 35 USC 102(e) as being anticipated by Cawfield (**US 6,088,630**).

Priority has not been given to the Instant Application; thus a 102(b) rejection is currently being applied.

To maintain compact prosecution, should the Applicants obtain the claimed priority, a 102(e) rejection shall be applied.

Cawfield discloses: 1. A method for generating a simulation program for maintenance by making available basic program operations and making available process parameters of a real process comprising:

automatically linking the basic program operations to the process parameters for initializing the simulation program (**Fig 1: "Set Points"; Fig 11. Linking is performed by the Flow chart and all texts that further expand on the figures' features. Specifically, the simulated and real processes are linked such that the "modeling errors" are feed back into the system in order to minimize the error.**).

Cawfield discloses: 2. A method according to claim 1, wherein automatic linking is carried out by a process control system which controls or regulates the real process (**Fig 5, emphasis on "Feedback Controllers" which inputs the real process measured reboiler level and simulated compositions, then performing "Reflux and Reboiler Control" and all text which further expands on the figure's features**).

Cawfield discloses: 3. A method according to claim 1, wherein the process parameters are made available by making pre-defined data packets available (**col: 3 line: 37-40, Fig 5 emphasis on item "Desired Feed and Bottoms Composition Set Points" and all text which further expands on the figure's features**).

Cawfield discloses: 4. A method according to claim 3 wherein the data packets comprising:

a parameter for a type of material (**col: 2 line: 4-11: type of material ... liquid and vapor, col: 18 line: 58-66**);

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a parameter for a type of a container (**col: 2 line: 4-11: type of container ... tray, col: 18 line: 58-66 type of container ... tank, Col 13-16: Table 1 and fields that relate to type of container (ie. Tray Feed Number, Temp. of tray, etc); and**

a parameter for an amount of the material (**col: 18 line: 58-66, col: 2 line: 4-11).**

Cawfield discloses: 5. A method according to claim 1, wherein the process parameters are obtained from a production recipe of the real process (**Fig 5 item Reflux and Reboiler controls (process parameters) are pointing to "real distillation column" (real process) and the loops that goes through the feedback controllers.)**).

Cawfield discloses: 6. A method according to claim 1, wherein the basic program operations are assembled into the simulation program on the basis of one or more semantic programs, semantic periphery assignments or process control engineering documents of the control of the real process (**col: 6 line: 8-17).**

Cawfield discloses: 9. A device for simulating a maintenance system comprising:

a storage facility for making available basic program operations and for a simulation process (**col: 19 line: 19-23, col: 10 line: 32-42: CPUs inherently have a storage facility (on chip ram) that);**

a control device for simulating a real process on the basis of the basic program operations (**col: 10 line: 32-33 distributed control system; Fig 4 and 5 and texts which further expand on their features); and**

a read-in device for reading in process parameters of the real process wherein the control device links automatically the basic program operations for a simulation process to the process parameters for initializing the simulation process (**read-in device: col: 7 line: 22-34 (inherent input means), Fig 1: "Set Points"; Fig 11. Linking is performed by the Flow chart and all texts that further expand on the figures' features. Specifically, the simulated and real processes are linked such that the "modeling errors" are feed back into the system in order to minimize the error).**



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As per claims 10-14, note the rejection of claims 2-6 above. The Instant Claims are functionally equivalent to the above-rejected claims and therefore rejected under same prior-art teachings.

As per claim 16, note the rejection of claim 1 above. The Instant Claim is functionally equivalent to the above-rejected claim and therefore rejected under same prior-art teachings, but for:

controlling the simulation process by a process control system of the real process (**Fig 5, emphasis on "Feedback Controllers" which inputs the real process measured reboiler level and simulated compositions, then performing "Reflux and Reboiler Control" and all text which further expands on the figure's features; col: 10 line: 32-33 dis**); and

executing a simulation process parallel to the real process, wherein the simulation process simulating at least a part of the real process (**Fig 4: "real process", parallel ... "real-time dynamic simulator"**);

comparing at least a portion of the simulation process with at least a portion of the real process to obtain a comparison result (**Fig 4: Measured Parameters; Simulated Measured Parameters**); and

deriving maintenance measures from the comparison result (**Fig 4: Mirroring Controller / Feedback Controller; Fig 11; col: 18 line: 58-66**).

Cawfield discloses: 17. A method according to claim 2, wherein the process parameters are made available by making pre-defined data packets available (**col: 9 line: 11-16; col: 3 line: 37-40, Fig 5 emphasis on item "Desired Feed and Bottoms Composition Set Points" and all text which further expands on the figure's features**).

Cawfield discloses: 18. A method according to claim 10, wherein the process parameters are pre-defined data packets (**col: 3 line: 37-40, Fig 5 emphasis on item "Desired Feed and Bottoms Composition Set Points" and all text which further expands on the figure's features**).

#### ***Examiner Requests***

15. The Examiner respectfully requests, in the event the Applicants choose to amend or add new claims,

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that such **claims and their limitations be directly mapped to the specification, which provides support for the subject matter.** This will assist in expediting compact prosecution.

***Conclusion***

16. All claims are rejected.

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Silver whose telephone number is (571) 272-8634. The examiner can normally be reached on Monday thru Friday, 10am to 6:30pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Silver  
Patent Examiner  
Art Unit 2128

ds

August 17, 2006

  
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